DEACTIVATION SPECIFICATIONS

FOR T-1-M-BT2 TANKER

M/V NODAWAY

PHASE V DEACTIVATION

200 ENGINEERING

ITEM 205: DIESEL ENGINES

Contractor shall provide labor, material and equipment to accomplish the work necessary for deactivation of four (4) Diesel Engines. (Engines will be operated periodically as described in Phase IV specifications.)

1. Crankcase
   Take samples of lube oil from crankcase and give to the CMS Representative to have analyzed. If TBN is less than 10 or otherwise unserviceable, pump out and refill with new Mobilgard 450 from ship's tanks. Thoroughly circulate clean oil to insure all parts are flushed and coated. Run engine to insure circulation.

2. Fuel Oil Systems
   Secure fuel supply to engines. Insure that all supply valves are tightly closed.

3. Combustion Chambers and Valves
   After the engines have cooled to a cylinder head temperature of 160 degrees Fahrenheit or less, measured at the injector nozzle flange area surfaces of each cylinder, the combustion chambers and valves of the engines shall be preserved as follows:

   a. After oil is qualified as greater than 10 TBN and serviceable, rotate engines with starter 15-20 revolutions with fuel rack in the No Fuel position.

   b. Close cylinder test valves for long term lay-up.

4. Cooling System

   a. The blocks and water jackets shall remain completely full of treated water. The drain cocks shall be closed. Owner furnished corrosion inhibitor is to be maintained at its recommended level.

   b. Reconnect the temporary Ship's Service Diesel Generator cooling system removed during activation. This system shall be reinstalled to permit operation of the generators during Phase IV maintenance using fresh shore water instead of sea water as the raw water in the heat exchangers.

   c. Reconnect the port and starboard main engine raw water cooling pump jumper removed during activation. This system shall be reinstalled to permit operation of the main engines during Phase IV maintenance using fresh shore water instead of sea water to the pumps.

TABLE OF CONTENTS

TABLE OF CONTENTS

TABLE OF CONTENTS CONTINUED

100 GENERAL

105 GENERAL NOTES

Contractor shall prepare a detailed deactivation schedule which includes labor, crafts, equipment and material. The schedule shall include each item of these specifications.

During the deactivation the Contractor shall provide a suitable berth and provide the following services:

1 Services:

a. Fire Protection: provide three (3) fire stations at bow, amidships, and stern with 100 psi pressurized manifolds and enough hose fitted with all-purpose type nozzles to reach all weather deck and internal locations on the vessel.

b. Electric Power: 300 amps, 440 volts AC, 3 phase, 60 hertz.

CAUTION Proper phasing shall be insured immediately upon connection to prevent damage to the equipment.

2. Office Space: provide separate dockside office space for CMS and MARAD representatives. Each office to have a minimum of 50 square meters of floor space, be adequately lighted, heated and air-conditioned. Each office is to be furnished with a minimum of two desks and chairs, one file cabinet, one book shelf, two steel hanging lockers, one meeting/service table with four chairs; 100 - 120 VAC, 50 to 60 Htz electrical power is to be supplied from a minimum of four, two plug jacks with ground; one each phone for overseas direct dialing, one local phone for domestic and international calls; Western Style male and separate female toilets and washing facilities are to be available close to the designated offices.

3. Meals and Accommodations and Transportation: Provide Western style rooms and meals (breakfast, lunch, and dinner) per the following schedule:

a. MARAD and CMS Representatives, total six each single rooms with private baths, for total 12 nights with option to hold two or more rooms for a period of 180 days following deactivation's of any one or all vessels. These rooms are to be equipped with a telephone capable of international calls by direct dialing and credit cards, one each computer modem connection to each phone, 24 hour satellite TV reception with at least one English news and separate movie/entertainment channel, and a small service refrigerator.

b. Total six ship's officers, single rooms with private baths for a total of eight nights. The rooms to include telephone for local and international calls, and local channel TV entertainment.

c. Eight crew (2 persons per room), estimated six nights with shared bath facilities. Telephones to be coded for local calls only. A TV for local channel entertainment shall be provided in each room.

105 GENERAL NOTES, continued

d. Hotel services shall include daily bed and linen changing, room and bath cleaning, days; and transportation between accommodation to/from vessel for meals, morning and evening if the walking distance exceeds 1 kilometer one way. Charges for laundry, meals, telephone, room refrigerator drinks and snacks, and other miscellaneous hotel services are to be billed directly to each occupant.

4.. Vessel Telephones: provide 24 hour telephones: one (1) phone for ship's office, and one (1) Contractor/local phone for ship's quarter-deck. The and ship's office phone shall be provided with International direct dialing service; these phones shall be available within 24 hours of the Notice of Activation.

5. Garbage and Debris Removal: Contractor to provide garbage bins or dumpsters onboard the vessel for collection and removal on a daily basis. Where port regulations apply, additional collection bins shall be provided as required for separation and/or recycling. Written notice of the requirements, in English, shall be made available to the CMS Representative and ship's master at the beginning of each activation.

6. Firewatch: required for all burning, welding, and heating operations. Firewatch shall be equipped with suitable Contractor furnished fire extinguisher and shall be aware of the nearest fire hose. Access to the Contractor UHF radio system is highly desirable.

7. Cleaning: the Contractor shall remove on a daily basis all dirt and debris generated as a result of work specified. Any and all damage to ship's paint, tile, structure, fixtures, equipment, and machinery occurring in Contractor's yard shall be restored per ship's painting specifications at the Contractor's expense.

8. Crane Service: Contractor shall provide crane and rigging service for handling stores and ship's equipage. The service shall consist of crane and operator and a 2-man rigging crew. A total of 40 hours crane and rigging service shall be used for estimating purposes (40 hours crane, 40 hours operator, 80 hours rigging). Hours and cost will be adjusted upward or downward, as appropriate, at end of the activation.

9. Labor and Materials: Contractor shall provide labor, materials and services to accomplish all work in these items unless otherwise specified. Hourly labor rates by category and material costs shall be included in the Contractor's tariff or as documented in the Contractor's contract.

10. Government Furnished Material: the Contractor shall take delivery of all Government Furnished Material (GFM), whether stored on board ship or delivered to the Contractor's covered storage yard or warehouse, and shall store, preserve, and protect it as required. The Contractor shall provide a secure storage area for those items removed from the ship during activation, and operation to include hull and topside blanks; cathodic protection system; D/H system hoses and fittings; stack covers; and flooding alarm equipment.

105 GENERAL NOTES, continued

11. Workmanship: all materials and workmanship shall be in accordance with good marine practice, regulatory requirements, and this specification.

12. Testing: the Contractor shall be responsible for pre-testing all work and for timely notification of the CMS Representative and cognizant ship's officer of all events that will require on-site inspection. Successful tests only will be accepted. Any pre-testing required shall be at Contractor's expense.

13. Schedule: The Contractor shall perform the deactivation work required by this specification in a timely and efficient manner; all work shall be performed on straight time, except where overtime is required for the convenience of the Contractor and is completed at no additional expense to the owner.

14. Deck Protection: Provide suitable temporary deck protection on interior passageways, master's office, chief engineer's office, crew mess, officers mess, and other high traffic areas as designated by the CMS Representative. A minimum of 6 mm thick protective covering, securely taped to the deck may be used.

15. Gas Free Certification: One the first day of activation a certified chemist shall inspect all ships cargo, void, tank, bilge, storerooms to ascertain that they are, or are not, safe for entry, including burning and welding. Results shall be posted at the ship's gangway, delivered to the MarAd and CMS Representatives, the vessel's master and chief engineer. Daily and frequent re-inspections shall be made of all suspect, sensitive and confined work areas of the vessel. Daily reports are to be distributed per the above. Please note the specific referrals to gas free certification in the following specifications.

ITEM 110 DELIVERY OF SHIP

Unless specifically requested by the Contractor, and agreed to by the MarAd and/or CMS Representatives, the vessel shall be activated at its assigned lay-berth.

1. In the event that it is agreed to move the vessel, the Contractor shall provide the following services:

   a. Marine Safety Agency and local Harbor Master clearances;

   b. Pilots, tugs, line handlers and riding crew;

   c. Towing tugs, escort tugs, locally required lights, signals and other regulatory requirements.

   d. Electricians and engineers to supervise shore connections and ships' generator utilization.

CAUTION Proper phasing shall be insured immediately upon connection to prevent damage to the equipment.

ITEM 111: MOORING OF VESSEL

1. At Minimum, the vessel shall have available three each braided or three-strand, minimum 8 inch circumference, synthetic mooring lines forward and aft, as necessary for safe and secure mooring. Additionally, for the purpose of nesting the tankers, two "Yokohama" type fenders are available on each vessel. The mooring berth shall provide adequate clearance under the keel for all stages of tide. Additional services and facilities shall include:

   a. Salt or fresh water fire main under continuous pressure for emergency service at a minimum of 100 psi.

   b. Commercial fresh or potable water service line.

   c. Adequate lighting for night boarding and disembarking.

   d. Adequate free and clear vehicle access to the vessel.

   e. Telephone service line Per Item 105.4 above.

   f. Electric power per Item 105.1 above.

Unless specifically requested by the Contractor, and agreed to by the MarAd and/or CMS Representatives, the vessel shall be deactivated at its assigned lay-berth.

ITEM 116: LIVING AND WORKING SPACES

1. Clean all spaces throughout ship. Hand wash with detergent and industrial disinfectant all surfaces in living spaces. Sweep and mop decks. Remove all trash from quarters and living spaces. Clean interior of all refrigerators.

2. The mattresses in crew quarters, officers' staterooms, and hospital shall be turned on end or propped up in their bunks to allow for air circulation.

3. Provide Contractor for insect and rodent inspection, and control at initial deactivation. Place traps and fumigate as required.

4. The ship's crew will collect, bag and inventory all soiled ship's linen. The Contractor shall remove the dirty linen to a shore facility for cleaning, inventory review, bagging and return to the vessel. The Contractor shall store onboard per the CMS Representative. The soiled linen is estimated to be:
   a. 75 bath towels
   b. 85 single bed sheets
   c. 50 single bed blankets
   d. 52 pillow cases
   e. 40 each 1.0 x 2.0 meter shag carpets
   f. 12 each steward's aprons
   g. 8 each steward's caps
   h. 12 each steward's jackets
   j. 15 each 1.5 x 3.0 meter linen table cloths

ITEM 120: OPEN ITEM

200 ENGINEERING

ITEM 205: DIESEL ENGINES

Contractor shall provide labor, material and equipment to accomplish the work necessary for deactivation of four (4) Diesel Engines. (Engines will be operated periodically as described in Phase IV specifications.)

1. Crankcase
   Take samples of lube oil from crankcase and give to the CMS Representative to have analyzed. If TBN is less than 10 or otherwise unserviceable, pump out and refill with new Mobilgard 450 from ship's tanks. Thoroughly circulate clean oil to insure all parts are flushed and coated. Run engine to insure circulation.

2. Fuel Oil Systems
   Secure fuel supply to engines. Insure that all supply valves are tightly closed.

3. Combustion Chambers and Valves
   After the engines have cooled to a cylinder head temperature of 160 degrees Fahrenheit or less, measured at the injector nozzle flange area surfaces of each cylinder, the combustion chambers and valves of the engines shall be preserved as follows:

   a. After oil is qualified as greater than 10 TBN and serviceable, rotate engines with starter 15-20 revolutions with fuel rack in the No Fuel position.

   b. Close cylinder test valves for long term lay-up.

4. Cooling System

   a. The blocks and water jackets shall remain completely full of treated water. The drain cocks shall be closed. Owner furnished corrosion inhibitor is to be maintained at its recommended level.

   b. Reconnect the temporary Ship's Service Diesel Generator cooling system removed during activation. This system shall be reinstalled to permit operation of the generators during Phase IV maintenance using fresh shore water instead of sea water as the raw water in the heat exchangers.

   c. Reconnect the port and starboard main engine raw water cooling pump jumper removed during activation. This system shall be reinstalled to permit operation of the main engines during Phase IV maintenance using fresh shore water instead of sea water to the pumps.

ITEM 215: STEERING GEAR AND TELEMOTOR SYSTEM

1. Clean all surfaces of power rams, telemotor rams, and all other ferrous machined surfaces of the steering gear and telemotor system and associated controls. Apply a protective coating.

2. Pressure lubricate steering engine and all controls.

3. Position and secure the rudder in the amid ships position and reinstall steel blocks between ram cylinders and ram cross heads, securely bolted in place to prevent rudder movement.

4. Set all hydraulic valves, to maintain a fully charged hydraulic system.

5. Fill sumps and storage tanks to full capacity with owner's supplied hydraulic oil..

6. Clean all machinery, foundations and the entire deck of oil.

ITEM 220: CENTRIFUGAL PUMPS - FRESH AND SALT WATER SERVICE

1. Completely drain and thoroughly dry the interiors of the fresh water and salt water centrifugal pumps and strainers. Accomplish all disassembly, disconnection and removals required for accomplishment of work. Upon completion and acceptance of work, reassemble all removals except drain plugs. Secure drain plugs adjacent to parent units. Salt water pumps shall be flushed with fresh water. Close up all fittings and removals after three months/H. Pressure test with air to insure that the system is completely closed.

2. The following list of pumps is provided for reference (quantities one unless other specified):

DATA:

1. Vacuum Pump: One each
   Mfr: Nash Engineering
   Mfr I.D.: BLA-270, Size 3/4" x 5/16"

2. Evaporator Pumps
   a. Feedwater Heater Drain: One each
      Mfr: Deming Company
      Type: Fig. 2895, Size 1, Duplex Double Acting

   b. Brine Pump: One each
      Mfr: Aqua-Chem Inc.
      Mfr I.D.: 5SC, Size 2 x 2.5
      Capacity: 386 GPM

   c. Distillate Pump: One each
      Mfr: Aqua-Chem Inc.
      Mfr I.D.: 1SC, Size 1 x 1.25
      Capacity: 5 GPM

   d. Sea Water Feed and Vacuum Pump: One each
      Mfr: Aqua-Chem Inc.
      Mfr I.D.: 5SC, Size 2 x 2.5
      Capacity: 184 GPM

   e. 1ST Effect Condensate:
      Mfr: Aurora Pump
      Mfr I.D.: 4R - Single Stage

3. Fire and General Service Pumps: Two each
   Mfr: Aurora Pump
   Mfr I.D.: Type 3 x 4 AD
   Capacity: 450 GPM

4. Fresh Water Circulating Pump: One each
   Mfr: Allis-Chalmers Co.
   Mfr I.D.: Type SHV, Size 4 x 4
   Capacity: 350 GPM

ITEM 220: CENTRIFUGAL PUMPS - FRESH AND SALT WATER SERVICE continued

5. Fresh Water Circulating Stand By Pump: One each
   Mfr: Pacific Pumps Inc.
   Mfr I.D.: Type 4" VKMB, Single Stage, Double Suction
   Capacity: 500 GPM

6. Fresh Water and Salt Water Circulating to Ship's Service Diesel Engines: 4 each
   Mfr: Weinman Pump Company
   Mfr I.D.: Type KB, Single Stage, Single Suction Attached to Engines
   Capacity: 185 GPM

7. Fresh Water Drinking and Wash Water: Two each
   Mfr: Fairbanks Morse and Company
   Mfr I.D.: Size 1 1/4", Westco, Series "E", No. 146 Single Suction, Single Stage Turbine
   Capacity: 10 GPM

8. Fresh Water Make Up Circulating: One each
   Mfr: Fairbanks Morse and Company
   Mfr I.D.: Size 1 1/4", Westco, Type SR-4R-13, Single Suction, Single Stage Turbine
   Capacity: 15 GPM

9. Salt Water Circulation: One each
   Mfr: Allis-Chalmers Company
   Mfr I.D.: Type SH-V, Size 4" x 4"
   Capacity: 350 GPM

10. Salt Water Circulating Standby: One each
    Mfr: Morris Machine Works
    Mfr I.D.: Type DS 6-5-6 SAV
    Capacity: 500 GPM

11. Sanitary Pump: One each
    Mfr: Frederick Iron and Steel Inc.
    Mfr I.D.: Type DSV-"MB", Size 2 1/2"
    Capacity: 250 GPM

12. Bilge and Ballast: Two each
    Mfr: Lombard Governor Corp.
    Mfr I.D. Type 2 x 3 CMB
    Capacity: 150 GPM
    Location: One in forward pump room & one in engine room.

ITEM 225: CARGO OIL PUMPS AND PIPING

DATA:

Cargo Pumps - Three Each
Mfr: Waterous Company
Model: P-1256
Capacity: 750 GPM
Type: Lobe type HBGN gear
Mounting: Horizontal

1. Drain all cargo/ballast and bilge pipe systems, including pumps and strainers into respective tanks and pump room bilge. Load 250 tons of commercial fresh water into one cargo tank designated by CMS Representative and add rust inhibiting additives to be supplied by the owner.

2. Fill all cargo/ballast pipe, pump and bilge systems with the above treated commercial fresh water and allow to remain for a minimum of 24 hours. Discharge water overboard using ship's pumps as far as possible. Drain remaining water into tank bottoms, pumproom bilge and voids as appropriate.

3. Clean and dry bottoms of all unused cargo/ballast spaces, pump room bilge and void spaces. Open all valves in the entire system, with the exception of the dedicated ballast tanks, to allow for D/H circulation.

ITEM 230: FRESH WATER SYSTEMS

1. Drain the two potable water tanks located at 1-28-1 and 1-28-2, including the 120 gallon hot water heater and the 120 gallon cold water pressure tanks. Pump out any remaining water after draining and blow tanks dry. Open the manhole openings and reinstall expanded metal screens removed during activation.

2. Make temporary removals of piping sections, valves, fittings, and drain plugs necessary to drain all fresh water piping systems including hot water and pressure tanks. Blow down systems with heated compressed air to insure that pockets of water are removed. Reassemble piping as needed. Close up all fittings and removals after 3 month's D/H. Pressure test with air to insure system Is completely closed. This work shall be accomplished in conjunction with the requirements of Item 220.

ITEM 235: SALT WATER SYSTEMS

1. Disconnect and make all removals necessary to completely drain, flush with fresh water and dry the salt water systems throughout ship. Systems shall include fire main piping, flushing systems, cooling water systems, and the salt water service line to stern tube bearings.

2. Clean the saltwater sides of all main engine, reduction gear, generator and watermaker heat exchangers; rod-out tubes as necessary. In conjunction with the requirements of Item 220, flush the saltwater sides of all heat exchangers with freshwater.

3. Disconnect salt water service line to stern tube bearing and cap off piping at valve at stern lube.

4. Remove, flush and dry all gauge lines and gauge connections.

5. At completion of draining and drying, all removals for this purpose shall be left open for circulation of D/H air. Secure removals adjacent to parent unit. Tag with service and location. Paint removals red for easy identification. Provide CMS Representative with type list of all removals left open. Close up all fittings and removals after 3 month's D/H. Pressure test with air to insure system Is completely closed.

6. The ship's crew will remove weather deck fire hoses, nozzles, applicators, and spanners, complete and inventory of the equipment and stow it in locations designated by the Chief Officer. The crew's work will include draining and air drying of all fire hoses.

7. Fully flush the entire fire main and off-stickers with commercial fresh water from the lower engineroom upwards. Open each weather deck hydrant to allow generous flushing at each station. Flush each under deck hydrant via hose to nearest toilet or overboard drain. Drain the entire system by opening all hydrants simultaneously. Close all hydrants and blow with Contractor supplied air each hydrant independently. Close and cap all weather deck hydrants. Internal hydrants will be later opened to accommodate Item 310, dehumidified air circulation.

8. Clean all strainers and close.

ITEM 240: SANITARY, SOIL, AND DRAIN PIPING SYSTEMS

1. Thoroughly flush all sanitary, soil, and drain piping systems with superchlorinated fresh water. Disassemble as necessary to drain and dry out the sanitary, soil and drain piping systems. Remove and reinstall ten designated sections of piping to prove systems dry to CMS Representative. Remove internals from five check valves, bag, identify and secure adjacent to parent unit. Blow dry with compressed air all loop and 'P"traps. After systems are dry reassemble all removals excepting check valves and those items required to be open for circulation of dehumidified air.

2. MSD system is also to be thoroughly flushed and cleaned.

3. Blow dry all toilet "P" traps with compressed air.

ITEM 245: MSD DEACTIVATION

1. Flush out with superchlorinated fresh water the entire MSD system including all piping, pumps, and both sections of the tank. Drain and dispose of all water in accordance with local port regulations. This work shall be accomplished in conjunction with the requirements of Item 240.

2. Remove the access opening end plates in the wet and media tanks and remove any remaining water. Access openings shall be left open and cover plates bolted to studs.

3. Open the two discharge pumps and fill pump casings with SAE 10 lube oil. Drain after all parts are coated.

4. Remove plugs from Roots blowers and fill with SAE 10 lube oil. Drain oil after parts are coated. Place plugs in cloth bags and attach to blowers. Close up all fittings and removals after 3 month's D/H. Pressure test with air to insure system Is completely closed.

ITEM 255: AIR COMPRESSORS AND PIPING SYSTEMS

1. Drain and refill the crankcases of two diesel engine starting air compressors and one ship's service air compressor.

2. Rotate each unit a minimum of 10 revolutions to assure coverage to all parts with clean oil.

3. Open up, thoroughly clean and dry all air storage and pressure tanks.

4. After inspection by the CMS Representative, close up the system in good order with new gaskets as required.

ITEM 260: BOILER

DATA: VA Power Corporation
Chicago, Ill 60648
Model FBC-4605-THK-2
Serial No. 22664
18 BHP - Maximum working pressure 35 psi
Located: 2-56-1, Lower Engineroom

1. a. Flush with fresh water the water sides of the boiler including feed pumps and piping. Drain upon completion. Blow dry with compressed air.

b. Remove valves and fittings sufficient to completely drain the system and allow circulation. Close up after 3 months D/H. Pressure test with air to insure complete closure.

c. Open firesides. Air lance and vacuum clean soot from all boiler coils.

d. Remove feed water treatment and test chemicals. Turn over chemicals to local Drew agent. Empty and clean all bottles and cabinet.

ITEM 262 OPEN ITEM

ITEM 263 WATERMAKERS

DATA: Offshore Marine Laboratories Inc.
Irvine, Calif.
Model: Sea Quencher - B183046-30
Serial No. 13068-0989
Rated: 1,800 gpm Location 2-49-1

1. Thoroughly backflush with fresh water the two (2) burm filter units two (2) times per the manufacturer's instructions..

2. Completely flush the two (2) reverse osmosis watermakers, and feedwater warming heat exchangers by connecting a source of freshwater to feed side of the system and operating the watermakers.

3. Drain, thoroughly dry, and lay-up the watermakers per the manufacturer's instructions for long-term lay-up..

ITEM 265: STEAM HEATING AND CONDENSATE PIPING SYSTEMS

1. Disconnect and make all removals necessary to completely drain and dry the steam and condensate systems throughout the ship.

2. All drains, traps, and valves shall be removed from the inlet and outlet sides of heaters and shall be left open. Paint red for easy identification and wire to parent equipment.

3. Blow out piping with dry air and prove dry. Drain tanks shall be wiped dry.

4. Re-heaters in living areas are accessible through removable panels. Secure panels next to removal area.

5. Heaters and radiators are listed below:

a. Vent Heaters:

Vent Heater Number	Location
02-44-1	Passage, 02-44-1
02-45-1	Passage, 02-45-1
02-49-1	Fan Room, 02-48-1
02-50-1	Fan Room, 02-48-1
02-51-1	Fan Room, 02-48-1
02-51-2	Emer. D/6 Rm., 02-45-2
02-52-1	Fan Room, 02-48-1
02-57-1	Fan Plenum, 02-54-1

b. Radiators:

Radiator Number	Location
02-30-1	Wheelhouse, 02-30-0
02-30-2	Wheelhouse, 02-30-0
01-67-1	Hospital, 01-67-2

c. L.O. Purifier Heater	Engine Room
D.O. Purifier Heater	Engine Room
d. Boiler Feed Tank	Engine Room
Heating System Drain Cooler	Engine Room

ITEM 270: LUBE OIL PURIFIERS

DATA: ALFA LAVAL
Model #MAB-103B-24-60

1. Clean and dry out the oil and water separator and the associated pump and oil monitor.

2. Open both chambers and remove the filter cartridge. Close up cage. Circulate clean fresh water and detergent through the separator to flush system of oil. Clean slop tank after flushing.

3. Remove drain plugs and sections of piping to facilitate draining and drying system.

4. Replace filter cartridge with new. Both chambers and oil pump covers shall be left open for air circulation. Close up all fittings and removals after 3 month's D/H. Pressure test with air to insure system Is completely closed. Lubricate pump impellers with petroleum jelly prior to closure.

ITEM 282 OILY BALLAST WATER MONITOR

1. Disconnect lines as required to flush clean with freshwater and detergent. Flush again with freshwater, blow dry with air, and reconnect all lines. Leave system operational.

ITEM 285: OPEN ITEM

ITEM 290: SHIP'S REFRIGERATION AND AIR CONDITIONING SYSTEMS

1. Charge the refrigeration and air conditioning systems to capacity with Freon and secure all valves. Conduct leak detection test to prove systems tight. Pump Freon into receiver for storage.

2. Flush condensers with fresh water. Open, clean tubes and drain and dry out condensers and supply and return piping. Secure removals to parent equipment and tag with non-ferrous metal tags showing function and location. Close up all fittings and removals after 3 month's D/H. Pressure test with air to insure system Is completely closed.

3. Fill compressor with sufficient oil to raise the level above crankshaft oil seals. Hang signs on compressors that read 'CRANKCASE OIL OVER FULL - DO NOT OPERATE UNTIL CORRECT OIL LEVEL IS ESTABLISHED" in 2.5cm high red letters on a white background.

4. Thoroughly clean walk in refrigeration boxes and leave in a clean dry condition. Secure doors in open position with wooden blocks under them to relieve load on hinges and to prevent sagging. Stand gratings on edge and lash to prevent falling.

5. Thoroughly clean all ship's refrigerators - leave in clean dry condition. Lash open for air circulation.

ITEM 292: GAUGES

1. Disconnect approximately 60 each salt water gauge lines located in machinery spaces, pumprooms, weather deck and throughout the ship. Rinse gauges with fresh water. Provide a reference list of gauges and pertinent information.

2. Blow out gauge lines to remove all traces of liquid then reconnect.

3. Provide a list of defective gauges for repair or replacement for CMS Representative.

300 ELECTRICAL

ITEM 301: ELECTRICAL EQUIPMENT AND MOTORS

1. Using on non-residue type spray cleaner, open and clean all generators and motors removing all dirt, oil and grease. Lift brushes and place on template type cardboard. Grease bearings. Soft seal weather deck motors with Contractor supplied sealant after cleaning.

2. A list of D/C generators and motors follows:

Equipment	Location	HP Rating
Ventilation Fan	02-33-2	1
Ventilation Fan	02-33-4	1-1/2
Ventilation Fan	02-48-1	3
Ventilation Fan	02-50-1	1
Ventilation Fan	02-56-1	2
Ventilation Fan	02-56-2	3
Ventilation Fan	02-66-2	2
Ventilation Fan	01-53-2	1-1/2
Ventilation Fan	01-53-2	7-1/2
Ventilation Fan	01-60-1	7-1/2
Ventilation Fan	01-70-2	1-1/2
Ventilation Fan	1-21-1	1-1/2
Ventilation Fan	1-22-1	1/4
Ventilation Fan	1-24-2	1/4
Ventilation Fan	1-45-0	1
Ventilation Fan	1-76-2	1/2
Ventilation Fan	1-81-1	1/2
Ventilation Fan	1-81-2	1/2
F.W. Circ.. Pump	Engine Room	1
F.O. Transfer Pump	Engine Room	5
Priming Pump	Engine Room	2
F.O. Booster Pump	Engine Room	3/4
STBY F.O. Booster Pump	Engine Room	3/4
F.W. Drinking & Washing Pump #1	Engine Room	1
F.W. Drinking & Washing Pump #2	Engine Room	1
Sanitary Pump	Engine Room	20
F.W. Circulating Pump	Engine Room	10
STBY F.W. Circulating Pump	Engine Room	10
S.W. Circulating Pump	Engine Room	7-1/2
STBY S.W. Circulating Pump	Engine Room	10
Air Compressor #1	Engine Room	20
Air Compressor #2	Engine Room	20
Ship's Service Air Compressor	Engine Room	20
L.O. Service Pump	Engine Room	15
STBY L.O. Service Pump	Engine Room	15
Fire and General Service	Engine Room	40

ITEM 301: ELECTRICAL EQUIPMENT AND MOTORS continued

Fire Pump	Engine Room	40
Bilge and Ballast Pump	Engine Room	7-1/2
Reefer Compressor #1	Engine Room	5
Reefer Compressor #2	Engine Room	5
Reduction Gear Pump #1	Engine Room	3
Reduction Gear Pump #2	Engine Room	3
Turning Gear Motor	Engine Room	3
Cargo Pump #1	Engine Room	60
Cargo Pump #2	Engine Room	60
Cargo Pump #3	Engine Room	60
Lathe	Machine Shop	2
Bilge and Ballast Pump	Fwd Pump Room	5
Priming Pump	Fwd Pump Room	1
Anchor Windlass	01-10-1	50
Warping Winch	01-76-0	25
Port Steering Gear	1-79-0	10
STBD Steering Gear	1-79-0	10
Motor - Generator #1	Emergency Generator Room	5 KW
Motor - Generator #2	Emergency Generator Room	5 KW
Emergency Generator	Emergency Generator Room	75 KW

NOTE: Do not lift brushes on the Emergency Generator.

ITEM 305: CATHODIC PROTECTION SYSTEM

DATA: CAPAC Cathodic Protection System
Engelhard Systems
Union, New Jersey 07083

1. Government Furnished Material
   a. Electrocatalytic Controller unit.
   b. Anode Assembly, platinized niobium, suspended type with 50 feet of cable. Englehard, Part No. 56800, eight (8) each.
   c. Silver/Silver Chloride Reference Electrode with 50 feet of cable. Engelhard, Part No. 36919, one each.
   d. Cable, Shop 60, for Bus Ring, 900 feet.
   e. Cable, Shop 23, 350 feet.
   f. Transformer, one (1) each.

2. Contractor Furnished Material
   Contractor shall furnish material necessary to make the installation complete and operational. Material, generally, will consist of, but not be limited to the following:

   a. Scotch #33 Electrical Tape
   b. Scotch 3-M Scotch Fill, 1 1/2 x 60"
   c. Heat-Shrink Tubing
   d. Heat Shrink End Caps
   e. Solder
   f. Cable Straps (Nylon)
   g. Cable Connections

3. Using owner's supplied, onboard the ship sketches for guidance, reinstall the Cathodic Protection System removed during the activation of the ship.

4. Scope
   Contractor shall provide labor, material (except GFM), and equipment to install a complete Cathodic Protection System consisting of four (4) major components:

   a. Anode Assembly
   b. Automatic Controller/Power Supply
   c. Silver/Silver Chloride Reference Electrode
   d. Bus Ring (Ship 60) Cable

5. Mechanical Installation
   a. Install a Bus Ring using GFM Ship 60 cable in one continuous loop from bow to stern port and starboard sides securing the cable to ship's structure using contractor furnished cable straps.

6. Electrical Installation
   a. Using reference (a) for guidance, reconnect a GFM transformer to the 3 pole, 440 VAC, 10 Amp circuit breaker. Reconnect the GFM Automatic Controller/Power Supply to the transformer.

ITEM 305: CATHODIC PROTECTION SYSTEM continued

b. Connect the Bus ring (Ship 60) cable to the Automatic Controller/Power Supply. Connect the ground lead from the Automatic Controller/Power Supply to ship's hull. Ground lead shall be mechanical connected by lugs and then soldered/welded for electrical connection.

c. Connect the eight (8) each Anode Assemblies to the Bus Ring and properly insulate with electrical tape and heat shrink tubing for a watertight connection. The length of each Anode cable shall be adjusted so the Anode will be positioned at the turn of ship's hull approximately 2 to 3 feet above the keel.

d. Install contractor furnished watertight 30 Amp fuse boxes on each of the Anode cables so the fuse will be between the Anode and the Bus Ring.

e. Anodes shall be evenly spaced about the hull with four (4) on the port side and four (4) on the starboard side, at the following approximate locations, Use and install a total of eight each, owner supplied hand rail suspension brackets to support anodes and wires. Support the weight of each Anode Assembly by a 1/2 inch nylon line supplied by the owner. Weight shall not be supported by the cable.

01-15-1	01-15-2
1-31-1	1-42-2
1-42-1	1-42-2
01-75-1	01-75-2

g. Install one GFM Silver/Silver Chloride Reference Electrode. Position the reference Electrode to maintain a maximum distance from the nearest Anode. Connect the Reference Electrode to the Automatic Controller/Power Supply using GFM Shop 23 cable. The weight of Reference Electrode shall be supported by 1/2" nylon line. The reference electrode shall be positioned on the starboard side at 1-40-1 supported per Item 305.6 (e) above.

ITEM 310: DEHUMIDIFICATION SYSTEM

DATA:

Mfg.: CARGOCAIRE
Model: HC-500
Volts: 440 VAC
Location: Permanently mounted, 1-32-2 Midship Space
Condensate drain: Bulkhead penetration to main deck

MFG.: EBAC Systems Inc., Williamsburg, Virginia
Model: CD-425
Volts: 460 VAC
Location: Temporarily mounted, 1-43-0, Aft Pumproom
Condensate drain: Drains via WTD removed dog

MFG.: EBAC Systems Inc., Williamsburg, Virginia
Model: CD-100
Volts: 110 VAC
Location: Temporarily mounted, 01-52-0, Engineroom
Condensate drain: Via hose to 2-54-2 overboard deck drain

MFG.: EBAC Systems Inc., Williamsburg, Virginia
Model: CD-30
Volts: 110 VAC
Location: Temporarily mounted:
1-10-2 Forward Stores, Drains via WTD removed dog
1-20-2 Forward Stores, Drains via WTD removed dog
02-32-1 Radio Room, Drains via WTD removed dog
02-30-2 Passage, Drains via WTD removed dog
01-62-0 Hospital, Drains via WTD removed dog

1. Reinstall equipment removed during ship activation. The units are equipped with drain hoses, circuit breakers, humidistats, thermostats, transformers, and electrical cable. Installation includes from owner's supply flexible plastic duct piping, drain hoses and fittings. Connect each unit to its electrical source. Accomplish reinstallation of all piping, valves, traps, manhole covers, access covers, and vent duct sections for circulation of D/H air, those items are tagged or painted red for easy identification. Open all interior doors and hatches per the CMS Representative. Open the following manhole covers and install their expanded metal covers. Wire the manhole gasket and nuts to an adjacent bulkhead.

ITEM 310: DEHUMIDIFICATION SYSTEM continued

Each	Compartment	Each	Compartment
1	1-B-0	1	2-7-0
1	4-10-1	1	4-10-2
1	3-12-1	1	4-22-0
1	1-24-1	1	1-24-2
1	1-30-1	1	3-12-2
1	1-30-0	1	1-30-2
1	1-33-1	1	1-33-2
1	1-42-0	1	2-83-0
1	1-S-0		

2. Flexible Hoses & Cargo/Ballast Tank Valves:

a. Connect 6 each owner's supplied flexible plastic hoses to ship's fire main hydrants and the below listed cargo/ballast tank ullage holes. Seal connections with Contractor supplied waterproof sealant. Close all cargo/ballast tank P/V vents. Open appropriate fire hydrants to allow passage of dehumidified air from ship's fire main to all cargo/ballast tanks.

No. 1 Stbd, No. 2 Stbd., No. 3 Stbd.
No. 4 Port, No. 5 Port, No. 6 Port

CAUTION: Do not connect flexible plastic hoses or open tank main suction, stripping valves and suction double-block valves to tanks holding ballast water. Please review valve setting requirements with the CMS Representative before commencing the following works.

b. Per CMS Representative's review, open all appropriate cargo/ballast tank main suction, stripping and suction double-block valves to allow passage and circulation of dehumidified air.

c. Open cargo and stripping pump strainers (total 3 each) in aft pumproom at Frame 44. Open all suction valves for each cargo system to each pump (total 6 valves) to allow passage and circulation of dehumidified air through the open pump strainers into the pumproom space.

d. Open one explosion proof light at Frame 46, the bulkhead between the Pumproom and Engineroom to allow for the circulation of dehumidified air.

3. Testing:

a. After installation and the zone testing above is completed satisfactorily, activate the D/H and test for proper operation.

ITEM 315 FLOODING ALARMS

1. Reinstall and connect the owner's supplied float switches and cable leads for bilge alarms removed during activation in the following locations:

   Storeroom, Fr. 10 - 2 each
   Forward Pump Rm., Fr. 23 - 2 each
   Aft Pump Rm., Fr. 44 - 4 each
   Engine Rm., Fr. 47 - 4 each
   Bilge Well, Fr. 75 - 2 each

2. Connect wire leads to Flying Bridge mounted visual and audio alarms. Seal connections with Contractor supplied sealant.

3. Test flooding alarms by tripping. Insure that visual and audio alarms function.

NOTE: After testing float switches by tripping, insure that alarm indicator panel switches are reset.

ITEM 322: CARGO, DEBARKATION, SIGNAL, AND SEARCH LIGHTS

1. Disconnect and remove one (1) 18-inch searchlight, one (1) signal light, and eight (8) cargo and debarkation lights from weather decks and superstructure. Tag removals and store in convenient locations specified by the CMS Representative. All deck penetrations and stuffing tubes shall be made watertight. Seal receptacle cover fittings with Contractor supplied sealant. Exposed wiring shall be encapsulated in heat shrinkable tubing to cable armor.

ITEM 330: INSULATION (MEGGER) READINGS

REFERENCE: Item 306, M/V NODAWAY Deactivation Spec MSCHON 84-19.

1. Obtain and record 500 volt megger insulation resistance readings of every motor, power, lighting, and intercommunication circuit throughout ship. Submit record to CMS Representative.

2. Power Circuits:
   a. Measure insulation resistance of each power circuit, motor and generator, controller, and its associated electrical circuit components blocked in a single circuit. Isolate circuits or components with megger readings of less than 1 kilo-ohm per volt of voltage system and determine their precise locations. Furnish the CMS Representative with location of each low reading.

3. Provide a typed report of all readings to CMS Representative.

WARNING: DO NOT megger any item having solid state components.

ITEM 335: SWITCHBOARDS, CLEANING OF

1. Clean bus bars, circuit breakers, relays, meters, voltage regulators, and rheostats on the Main Switchboards in the upper engine room and emergency switchboard in the emergency generator room.

2. Use a non-residue type spray cleaner and remove all dirt and debris without disassembling component parts of switchboards.

3. All circuit breakers and switches shall be left in an open position.

4. Tighten to appropriate torque levels all electric cable lugs inside the main and emergency switchboards.

ITEM 340: WEATHER EXPOSED LIGHTING, RECEPTACLES, AND STUFFING TUBES

1. Replace all defective weather deck light bulbs from owner's supply. Replace missing vapor globes, wire guards, receptacle outlet caps and covers from owner's supply. Insure that all glass and steel shields are tightly closed.

2. Check all weather exposed lighting fixtures, receptacles and cable stuffing tubes for water tightness. Insure tight stuffing tubes and coat Contractor supplied sealant as needed.

ITEM 357: VOICE TUBES

1. Weatherize the two voice tubes from flying bridge to pilot house by sealing with Contractor supplied sealant on flying bridge side only.

ITEM 360: GALLEY EQUIPMENT

1. Clean and remove all grease, dirt and debris from top and bottom of heating units, voids under heating units, interior and exterior of ovens, oven control panels and overhead range control panels.

2. Thoroughly galley counters, sinks, refrigerators, bulkheads, appliances and deck with a Contractor supplied industrial grade disinfectant.

3. Place roach insecticide as appropriate.

4. The following equipment shall be dealt with:

   a. G.E. Oven Model CN63
   b. Lang Deep Fat Fryer Model LG36M-1
   c. G.E. Marine Range Model MR144

ITEM 370: BATTERIES

1. Disconnect all lead acid batteries. Clean all battery connections on ship and coat with petroleum jelly. Clean battery racks and shelves. Sweep battery rooms clean. Top off all cells with distilled water.

2. Place batteries on a trickle charge system to insure that batteries are ready for use.

3. The following batteries are included:

   a. General Alarm and Internal Communications: Eight each, 6 volt, 100 AH, 02-104-2.

   b. Emergency Radio: Two each, 6 volt, 500 AH, 02-104-2.

   c. Data Logger: 12 volt, 4 SAW, Gel-Cell located inside Data Logger in Aux. Machinery Space.

   d. Fire Detection System: Five each, 6 volt, 8 AH, Power Sonic Model.

   e. Emergency Diesel Starting: 2 6V 8D

ITEM 385: NAVIGATION EQUIPMENT

1. Provide from Contractor supply heavy duty plastic covers for ship's radar indicator and transceiver units, and wheel house telegraph.

2. Provide from ship's supply heavy duty and install herculite covers for the magnetic compass and stand on the flying bridge and the gyro repeaters on the port and starboard bridge wings, flying bridge and after steering station.

3. Install from ship's supply heavy duty, weather-proof covers for the port and starboard bridge wing engine order and rudder angle indicators.

4. Insure that all individual unit and switchboard switches are off to insure against accidental operation.

400 HULL

ITEM 402 HULL BLANKS

1. Furnish services of divers to reinstall all hull and sea chest blanks removed per the following list:

NOTE: All hull blanks are weld marked with the plate size and side.

Item	Location	Blank Size	P/S	Frame No.
1	Fwd. Pumproom Suction	20-1/2"	P	23
2	Aft Pumproom Seachest	28"	P	43
3	Aft Pumproom Seachest	28"	S	43
4	Main Engine High Suction	24"	S	47
5	Main Engine Low Suction	24"	S	48
6	No. 2 Diesel Generator & Sanitary Suction	24"	S	51
7	Main Engine Overboard	13-1/2"	S	54
8	No. 2 Diesel Generator Overboard	15"	P	55
9	Diesel Generator Service Pump Overboard	15"	P	61
10	Fire Pump Seachest	24"	P	61
11	No. 1 Diesel Generator Seachest	20"	S	61
12	Watermaker Suction	18"	S	61
13	Unused - Blanked Internally	18"	S	62
14	Former Evaporator Suction	16"	P	62
15	Diesel Generator Service Pump Suction	24"	P	65
16	Unused - Blanked Internally	16"	P	66
17	Bilge & Ballast Overboard	15"	P	67
18	Bilge & Ballast Suction	21"	P	68
19	Reduction Gear Cooling Overboard	20"	S	68
20	Oily Water Separator Overboard	13-1/2"	P	69
21	Reefer Cooler Overboard	13-1/2"	S	73

2. For ease of future removal, all nuts and bolts shall be lubricated with Contractor supplied anti-seize compound before installation.

3. The hull blanks shall be in place and secure before the work required in Items 220 and 235 is accomplished. In conjunction with the work required for those items. flush with freshwater, drain, and pump dry all seachests and sea connections, removing and replacing the bonnets on sea valves as necessary. Close up and test the integrity of all systems per Item 335.

ITEM 405: LIFEBOATS, DAVITS AND WINCHES

1. Gravity Davits:
   a. Grease with heavy duty, water-resistant, rust preventative grease all wires, blocks, sheaves, releasing gear, rollers and fittings.

2. Lifeboats:
   a. Drain and dispose of the water, lube oil and fuel oil from the engines and fuel tanks. Refill engines with new Mobil 1, (5-30W) lube oil, anti-freeze treated coolant, and marine gas oil from ship's supply. Turn engines at least 15 times to insure the complete coating of interior surfaces. Flush water sides with fresh water.

   b. The ship's crew will remove all supplies and equipment from both lifeboats, complete an inventory and store onboard the vessel.

   c. Clean boat interiors and exteriors using detergent. Remove rubber balls from automatic drain plugs, place in cloth bags, and fasten to strainer and store in such a way as to prevent inadvertent plugging.

   d. Cover the boats using the owner's supplied covers and wooden frame supports.

ITEM 406: INFLATABLE LIFE RAFTS

1. The ship's crew will remove the hydro-static releases from the two Sea Jay Elliott 25-person inflatable life rafts and secure them in the Chief Officer's stateroom. The Contractor will cover the rafts with a heavy duty, weather-proof material securely lashed to the rafts and frames.

ITEM 408: RING LIFE BUOYS

1. The ship's crew will remove twelve (12) ring life buoys from weather deck locations, remove all water-light batteries and discard or scrap. Stow ring buoys and water-lights in an area to be designated by the Chief Officer or CMS Representative. No Contractor assistance is required for this item.

ITEM 415: FIRE FIGHTING EQUIPMENT

1. CO_2 Fixed Systems:
Disconnect all fixed CO_2 cylinder flexible hose connectors in CO_2 rooms 1-33-1 and 02-44-2 and in forecastles. Install locking pins in all operating levers. Test all pull cables to ascertain free and full operations. Apply preservative grease to all internal and external actuating mechanisms and replace all broken or missing activator box glass.

No.	Size	Location	Compartment
37	50#	CO_2 Room	1-33-1
5	50#	Fwd. CO_2 Room	1-10-1
2	50#	Emergency Diesel Room	02-45-2
4	50#	Engineroom Hose Reel	2-60-1
4	50#	Engineroom Spare	2-60-1
52	TOTAL		

2. Portable CO_2 Systems
The ship's crew will secure all extinguishers in their designated positions and report defects, if any to the CMS Representative.

NOTE: This item requires no Contractor participation.

ITEM 433: WEATHER DECK SCUPPERS AND DRAINS

1. Tack-weld six each port and six each starboard, 10 inch x 4"x 1/4" Contractor supplied mild steel scupper and drain extensions in locations specified by the CMS Representative. Coat new steel and restore coatings on old steel per paint specifications with owner's supplied paint.

ITEM 435 HOSE GEAR

1. Place 1" x 1" x 12" wood blocks in boom rest cradle and lower the 5-ton boom into cradle. Secure topping lift, runner, guys and blocks in midship stores per Chief Officer or CMS Representative. Clearly tag and identify each part for future rigging and utilization. Grease the gooseneck fittings and winch as required. Restore disturbed coatings per paint specifications with owner's supplied paint.

ITEM 445: WATERTIGHT AND WEATHER-TIGHT CLOSURES

1. Chalk test rubber gaskets on weatherdeck doors, hatches and scuttle closures. Free-up all door dogs and mechanical closing devices. Grease all dogs. Dog all doors, hatches, and airports with the exception of five (5) access doors listed below. All portholes are to be dogged closed.

2. Doors to pump room 1-24-2 and 1-42-0, passageway doors 1-28-2, 1-31-1, 1-43-1, 01-31-1, and generator room door 02-44-2 shall be the access doors to dehumidified spaces and shall be left closed but not sealed. These doors shall be painted yellow and stenciled in 2-inch black letters. "DEHUMIDIFICATION ZONE ACCESS DOOR."

ITEM 447: VENTILATION TERMINALS; SEALING AND BLANKING

1. Chalk test rubber gaskets on weatherdeck ventilation closures. Replace defective gaskets with Contractor supplied material and labor. Estimate six (6) each requiring replacement.

2. Welded Covers: Install 16-gauge galvanized steel covers on 18 openings by skip welding and silicone sealing. Welding to be minimal to allow for easy removal.

3. Other: Blank off engine room exhausts with 16-gauge galvanized steel tack welded covers. Reinstall stack cover removed during activation. Remove fan, motor, and mounting brackets for ventilation fan 02-70-1. Install and tack weld an 8-inch galvanized steel blank over opening.

4. Plumbing Vents: Install ten approximately 2-inch x 6-inch x 2-inch tack welded 16-gauge galvanized steel blanks over plumbing vents.

5. Ship's Whistle: Remove ship's whistle, tag and stow inside of stack. Disconnect the piping. Remove and pull back the pull wire and remove the receptacle plug. Seal openings with vinyl sheeting taped with vinyl tape and covered with scotch-kote (two-coats). Seal openings and piping ends with vinyl sheeting taped with vinyl tape and covered with scotch kote (two coats).

6. Dogged Covers:

Location	Size
01-24-1	12" x 18"
01-24-2	12" x 18"
01-14-2	9" Diam.
01-33-2	22" x 20"
01-71-2	24" x 24"
01-76-4	8" x 8"
01-79-1	8" x 8"
01-79-2	8" x 8"
02-33-2	29" x 22"

ITEM 447: VENTILATION TERMINALS: SEALING AND BLANKING continued

02-49-1	36" x 18"
02-50-1	10" x 20"
02-53-1	26" x 26"
02-56-1	20" x 48"
02-56-2	16" x 26"
02-55-2	20" x 36"
02-51-2	20" x 32"
02-47-2	20" x 32"
03-28-2	12" x 12"
03-29-2	18" x 18"
03-31-2	12" x 18"
03-30-0	8" Diam.
03-49-1	18" x 18"

b. Welded Covers:

Location	Size
01-20-2	24" x 30"
01-31-1	7" Diam.
01-22-1	18" x 24"
01-22½-1	12" x 9"
01-23-2	21" x 15"
01-33½-2	25" x 14"
01-33½-1	22" x 20"
01-77-1	24" x 18"
02-33½-4	18" x 12"
02-45-1	18" x 10"
02-67-1	12" x 12"
02-70-2	11" x 4"
02-70-1	11" x 4"
03-47-2 (on mast)	9" Diam.
03-48-1	24" Diam.
03-51-0	12" x 9"
03-55-2	6" Diam.

c. Plumbing Vents:

Location	Size
01-29-1	All
01-29-2	2" x 6"
01-43-1	
01-43-2	
01-48-10	
1-48-20	
1-54-10	
1-54-20	
1-71-00	
1-71-1	

ITEM 455: CONTAMINATED LIQUID REMOVAL

1. Provide pumps, equipment, hoses and transportation to dispose of oily or otherwise contaminated liquids from Ship's bilge, cofferdams, voids, tanks, piping and vents necessary for accomplishment of work in items of this specification. A total of 20 each barrels of salt water with 22% by volume marine gasoil shall be used for estimating purposes.

2. Furnish price per barrel for additional removal and disposal of the same per Item 1 above.

ITEM 470: BILGES AND DRAIN WELL CLEANING

1. Thoroughly clean all bilge and drain wells of extraneous matter and wipe down free of all oil, grease and other flammable materials. Clean rose boxes, clean strainer plates and reattach.

2. Upon completion all bilge, drain wells, and rose boxes shall be completely dry and free to extraneous matter.

Locations:

Bosun's Stores 1-B-0
Forward Rope Locker 2-B-0
Chain Locker 2-9-0
Lower Tween Deck 4-9-0
Forward Pumproom 4-20.0
Forward Cofferdam 4-22-0
Double Bottom 5-23-0
Midship Cofferdam 5-30-1
Midship Cofferdam 5-30-2
Aft Cofferdam 5-43-1
Aft Cofferdam 4-43-1
Aft pumproom Void 2-43-0
Aft Pumproom Bilge 5-44-1
Aft Pumproom Bilge 5-44-2
Engineroom Bilge 4-46-1
Engineroom Bilge 4-46-2
Engineroom Bilge 4-79-0
Aft Peak Tank 2-S-0

ITEM 481 BALLAST

1. The Contractor shall supply 1,000 metric tons of "commercial" grade freshwater for mooring ballast. The CMS Representative will designate the ballast tanks and amounts to be loaded in each tank. The ship's crew will load the ballast under the direction of the Chief Officer or CMS Representative. Per the manufacturer's specification, the ship's crew shall treat each ballast tank with owner's supplied Drew/Ameriod C.I.L.. Rust Inhibitor. The appropriate tank vents will be in the open position. All tank valves, for tanks containing ballast water, will be chained shut and locked from owner's supply. This item shall be accomplished in conjunction with Item 225.

ITEM 490: NAME BOARDS

Remove Ship's port and starboard name boards. Wash with detergent, dry and stow in wheelhouse.